**Algebra 3-4   
1st Semester Final**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_  
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**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 Signature**

**Test Sections Score**

**Chapter 1 Expressions, Equations and Inequalities \_\_\_\_\_\_  
  
Chapter 2 Functions, Equations and Graphs \_\_\_\_\_\_  
  
Chapter 4 Quadratic Functions and Equations \_\_\_\_\_\_  
  
Chapter 5 Polynomial and Polynomial Functions \_\_\_\_\_\_**

**1st Semester Final \_\_\_\_\_\_**

**Chapter 1**

Evaluate Using Order of Operations. [L2]

1.) 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.) 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
Solve for the indicated variable. [L2]

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
4.) 4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
  
  
5.) 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
Solve the Expression for x. [L2]

6.) 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the Expression for x. [L3]

7.) 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the equation. Check for extraneous solutions. [L3]

8.) 8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write an Equation and Solve. [L4]

9. Beth has $500 in her savings account and makes $25 per day babysitting. 9.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Write an equation to represent this situation.   
How many days until she will have $2000 saved?

**Chapter 2**

Identify the domain and range. Then tell whether the relation is a function.[L2]   
  
1.) {(3, 2), (-2, 5), (1, 0), (-4, 6), (1, -1)} 1. Domain: \_\_\_\_\_\_\_\_\_\_   
 Range \_\_\_\_\_\_\_\_\_\_   
   
 Function? \_\_\_\_\_\_\_\_\_   
Decided whether the given function is linear, then evaluate it for the given value of x. [L2]

2.)  2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write the Equation in Slope-Intercept Form. [L2]

3.) -3x+2y=7 3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the slope of the line through the given points. Then write the equation for the line. [L3]

4.) (6, 8) and (4,2 ) 4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Graph the following equations. [L3]

5.) 2y +3x = 6 5.

Choose to answer one of the following. [L4]

6.) \*Describe a real life situation that would model an event with positive correlation and write its equation.  
 -or-  
 \*Write an absolute value equation with a vertex in the 3rd quadrant that reflects about the x-axis.

**Chapter 4**

Write the following in Standard Form. [L2]

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
  
 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Graph. [L2] Graph. [L3]





Factor the expression completely. [L2]

5.) m2 + 12m + 20 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the Equations Using Any Method. [L3]

6.) x2 – 8x = -15 6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solve the following. [L4]  
7.) Campers at an aerospace camp launch rockets while attending the camp. 7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
The path of the rocket is modeled by the equation   
where t is the time in seconds and h is the distance from the ground (height).   
Find the maximum height of the rocket.   
After how many seconds does it reach this height?

**Chapter 5**Describe the Polynomial

Degree: \_\_\_\_\_ **[L2]**  
Leading Coefficient: \_\_\_\_\_ **[L2]**  
Total Number of Solutions: \_\_\_\_\_ **[L2]**  
Y-Intercept: \_\_\_\_\_ **[L2]**  
List of Possible Rational Solutions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **[L2]**  
Right End Behavior: \_\_\_\_\_\_\_\_ **[L2]**  
Left End Behavior: \_\_\_\_\_\_\_\_ **[L2]**Find all zeros (Show your work). \_\_\_\_\_\_\_\_\_\_ **[L3]**

Write in standard form a polynomial function with leading coefficient of 1 with zeros [L2]

2.) . 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the zeros of the following function. Multiplicities? [L3] 3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
?

Solve the following. [L4]  
4.) The volume in cubic inches of a box can be expressed as the product of three dimensions.  
*𝑉* The length is (and you know it is a factor!). Find the missing constant in Then find the other dimensions of the box. Assume that the width is greater than the height.

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_